



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,053	05/06/2004	Anand S. Bedekar	CE10624R	6638
22917	7590	03/31/2010		
MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL01/3RD SCHAUMBURG, IL 60196				
EXAMINER				
TAHA, SHAQ				
ART UNIT		PAPER NUMBER		
2446				
NOTIFICATION DATE		DELIVERY MODE		
03/31/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing.US@motorola.com

# Office Action Summary

Application No.

10/840,053

Applicant(s)

BEDEKAR ET AL.

Examiner

SHAQ TAHA

Art Unit

2446

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 - 13 and 16 - 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 13 and 16 - 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This is a Non-final action for application number 10/840,053 after a Request for Continued Examination filed on 02/19/2010. The original application was filed on 05/06/2004. Claims 1 – 13 and 16 - 20 are currently pending and have been considered below. Claims 1, 2, 7, 9, 10, and 13 are amended. Claims 1, 9, and 13 are independent claims.

### **Response to Arguments**

Applicant's arguments with respect to claims 1 – 13, and 16 – 20 have been considered but are moot in view of the new ground(s) of rejection.

### **Claim Rejections - 35 USC § 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claims 1, the phrase " send the request to the server over a persistent connection for the number is lowest," renders the claim indefinite because it is unclear what the applicant is referring to by the lowest, is it the lowest load or the lowest number of the servers.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 - 4, 6, 8 - 13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cousin et al. (US 2003/0208600) in view of Hughes et al. (US 7,430,755)

Regarding claims 1, 9, and 13, a proxy within a network for use in facilitating access with a distributed network, the apparatus comprising: a plurality of persistent connections between the proxy and one or more servers in the network wherein the persistent connections is an active and established connection between the proxy and the server, **[A Connection Management Interface (CMI) device is provided that can maintain a persistent connection to a client during the transfer of dynamically created data files between a client and server, wherein the CMI is the proxy that controls data flow between clients and servers as shown in Fig. 3, (Cousin et al., Paragraph 20)],**

and a controller that controls communications over the persistent connections, **[The Master 43, a processor with associated code which manages the CMI device's 11 queues, or buffers, and jobs, then takes the request from the Request**

**Queue 41 and matches it with the next available server connection via the Think Module 33, the server TCP/IP stack 55, and the Server NIC 31, as shown in Fig. 3, (Cousin et al., Paragraph 42)],**

communication ports coupled with the persistent connections, where at least one of the communication ports receive requests for objects from users wherein the objects are from the one or more servers, **[The Client NIC 35 gets the reply from Reply Queue 39, wherein the client NIC and the server NIC are the communication ports that first receive a request and first receive a replay to the request and keep the connection persistent between the client and the server as shown in Fig. 3, (Cousin et al., Paragraph 52)],**

and wherein the controller communicates over the persistent connections and allocates the requests to the plurality of persistent connections for transmission to the one or more servers, **[The Master then takes that request from the Request Queue and matches it with the next available server connection, wherein the master is the controller that controls communication to the persistent connection as shown in Fig. 3, Ref # 43, (Cousin et al., Paragraph 21)],**

receives the requested objects over the plurality of persistent connections, **[The Think Module 33 processes the reply and then places it in the Reply Queue, or buffer, 39, whereon the controller 43 receives the requested object which is the reply and stores it at the reply queue 39 as shown in Fig., 3, (Cousin et al., Paragraph 43)],**

and delivery of the objects received from the one or more servers to the users in an order, **[The COI sends the replies back to the client in the order they were requested, wherein the proxy which is the NIC or COI as shown in Fig. 1, Ref # 11 and Fig. 3, Ref # 11 sends the requested object to the client in order, (Cousin et al., Paragraph 44)],**

and wherein the controller deciding, for each request sent by a user for an object from the server, to send the request to the server over a persistent connection for the number is lowest, **[the client sends an HTTP request to the CMI device, which fully proxies a web server, then the Master then takes that request from the Request Queue and matches it with the next available server connection, wherein the controller sends the request to the server as shown in Fig. 3, (Cousin et al., Paragraph 21)],**

and assigning the order in which the requested objects are received from the server are delivered to the users such that when the first request is received from a first user before a second request from the first user and the second requested object is received from the server before the first requested object is received, **[The COI sends the replies back to the client in the order they were requested, wherein the server NIC receives the requested object and sends it to the controller 43 to be routed to the client in an order, (Cousin et al., Paragraph 44)],**

the first requested object is assigned to be delivered to the user before the second requested object is assigned to be delivered, **[Fig. 4b Ref # 70, wherein**

**multiple requests are sent to the server but first request is processed and the first requested object is sent to the client, (Cousin et al., Paragraph 44)],**

Cousin et al. fails to explicitly teach a load tracker to monitor a number of requests sent over the persistent connection to the server for which the requested objects have not yet been received,

Hughes et al. teaches that the controller performs load balancing to determine the proper target server the first time, **(Hughes et al., Col. 17, lines 50 – 60)**, in order to control the flow of data packets to and from an array of application servers, **(Hughes et al., Col. 1, lines 58 – 65)**,

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Cousins et al. by including a load tracker to monitor a number of requests sent over the persistent connection to the server for which the requested objects have not yet been received, **(Hughes et al., Col. 17, lines 50 – 60)**, in order to control the flow of data packets to and from an array of application servers, **(Hughes et al., Col. 1, lines 58 – 65)**.

Regarding claims 2 and 10, the proxy of claim 1, wherein the controller dynamically adjusts the number of persistent connections between the proxy and the server based on the number of requests monitored by the load tracker, **[The server connection is maintained as a keep-alive connection whenever possible, (Cousins et al., Paragraph 21)].**

Regarding claim 3, the proxy of claim 2, further comprising: an idle timer coupled with the controller, wherein the controller activates the idle timer when a first persistent connection becomes idle, and terminates the first persistent connection when a predefined time period expires before a request for an object is allocated over the first persistent connections, **[The file now can be transferred to the client without the need to terminate the persistent connection. Therefore, the CMI device is able to maintain the persistent connection with the client, (Cousins et al., Paragraph 26)]**.

Regarding claims 4 and 11, the proxy of claim 2, wherein the controller activates an additional persistent connection when an additional request is received for a second server of the one or more servers and one or more persistent connections are not idle, and allocates the additional request to the additional persistent connection for transmission to the second server, **[Fig. 4b shows multiple requests sent to multiple servers through multiple persistent connections]**.

Regarding claims 6 and 18, the proxy of claim 1, further comprising: a cache coupled with the communication ports, wherein a first received object is stored in the cache when a first request associated with the first object has a lower priority than a second request for a second object that has not been received, **[Fig. 3, Ref # 41 where the requests are cached and Ref # 39 where the requested objects are cached]**.



Regarding claim 8, the proxy of claim 1, wherein the controller tracks priorities of the received requests and delivers the objects to the requesting user in the order of the priority, **[The COI sends the replies back to the client in the order they were requested, (Cousins et al., Paragraph 44)]**.

Regarding claim 12, system of claim 9, wherein the proxy further comprises: an object identification evaluator coupled with the controller, the object identification evaluator identifies a user associated with a received object and a priority associated with the object, **[The Server NIC then decides whether this reply deserves special processing (such as compression, encryption, conversion, (Cousins et al., Paragraph 24))]**,

and a priority-based object router coupled with the object identification evaluator, where the object router routes the received object to the user as identified by the object identification evaluator based on the priority of the object as identified by the objection identification evaluator, **[The COI sends the replies back to the client in the order they were requested, (Cousins et al., Paragraph 44)]**.

Claims 5, 7, 16, 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cousin et al. (US 2003/0208600) in view of Hughes et al. (US 7,430,755) and further in view of Goddard et al. (US 2002/0055980)

Regarding claims 5, 7, and 20, the modified Cousins et al. teaches that more than one persistent connection between the apparatus and a third server of the one or more servers exists, **[Fig. 4b shows multiple requests sent to multiple servers through multiple persistent connections]**,

the modified Cousins et al. fails to teach that the controller allocates the requests for the third server to one or more persistent connections persistent connections to the third server such that the requests are transmitted to the third server over the persistent connections having lightest loads,

Goddard et al. teaches defining a maximum number of concurrent connections that a server is permitted to support, limiting a number of concurrent connections supported by the server to the maximum number, **(Goddard et al., Paragraph 9)**, in order to control a performance factor for the server, **(Goddard et al., Paragraph 9)**,

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the modified Cousins et al. by including that requests are transmitted to the third server over the persistent connections having lightest loads, **(Goddard et al., Paragraph 9)**, in order to control a performance factor for the server, **(Goddard et al., Paragraph 9)**.

Regarding claim 16, the modified Cousins et al. teaches the method of claim 13, further comprising: monitoring a first persistent connection of the plurality of persistent connections, **[The client therefore "sees" a persistent connection with the server, even if the server is not able to maintain a persistent connection due to the dynamic content of the reply, (Cousins et al., Paragraph 25)],**

The modified Cousins et al. fails to explicitly teach releasing the first persistent connection when the first persistent connection is idle for a predefined period of time, Goddard et al. teaches that the dispatcher 102 preferably waits until a connection becomes idle before terminating that connection, **(Goddard et al., Paragraph 40)**, in order to control a performance factor for the server, **(Goddard et al., Paragraph 9)**,

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the modified Cousins et al. by releasing the first persistent connection when the first persistent connection is idle for a predefined period of time, **(Goddard et al., Paragraph 40)**, in order to control a performance factor for the server, **(Goddard et al., Paragraph 9)**.

Regarding claims 17 and 19, the modified Cousins et al. teaches that the method of claim 13, further comprising: receiving an additional request for an object on the first server, **[Fig. 4b, Ref # 64, wherein a second request is received],**

determining loading on each of the existing persistent connections to the first server when there are one or more persistent connections to the first server, **[Fig. 4b**

**shows multiple requests sent to multiple servers through multiple persistent connections].**

and communicating the additional request to the first server over the additional persistent connection, **[Fig. 4b shows multiple requests sent to multiple servers through multiple persistent connections],**

the modified Cousins et al. fails to teach determining when existing persistent connections to the first server are loaded beyond a threshold limit when receiving the additional request activating an additional persistent connection all of the existing persistent connections are loaded beyond a threshold limit,

Goddard et al. teaches when the number of data requests stored in the queue 106 is below a defined threshold, the dispatcher may establish additional front-end connections upon request until the maximum number of front-end connections that can be supported by the dispatcher 102 is reached, **(Goddard et al., Paragraph 37)**, in order to control a performance factor for the server, **(Goddard et al., Paragraph 9)**,

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the modified Cousins et al. by determining when existing persistent connections to the first server are loaded beyond a threshold limit, **(Goddard et al., Paragraph 37)**, in order to control a performance factor for the server, **(Goddard et al., Paragraph 9)**.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Shaq Taha** whose telephone number is 571-270-1921. The examiner can normally be reached on 8:30am-5pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Jeff Pwu** can be reached on 571-272-6798.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/S. T./

Examiner, Art Unit 2446

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2446